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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,468	01/28/2004	Frederick W. Giacobbe	Serie 6481	8586

7590 04/17/2007
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EXAMINER

HOFFMANN, JOHN M

ART UNIT PAPER NUMBER

1731

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/765,468

Applicant(s)

GIACOBBE ET AL.

Examiner

John Hoffmann

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-39, 43 and 47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-39, 43 and 47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/2004 & 1/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/26/07 has been entered.

Claim Objections

Claims 29-31 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 29-31 depend from claim 32, which is a subsequent claim, not a previous claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 43 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is no antecedent basis for "the one or more gases".

Art Unit: 1731

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 29-39, 43 and 47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicant argues that Lu is not enabling.

The MPEP sets forth what must be considered to establish whether the enablement requirement is met.

2164.01(a) Undue Experimentation Factors

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:

- (A) The breadth of the claims;
- (B) The nature of the invention;
- (C) The state of the prior art;
- (D) The level of one of ordinary skill;
- (E) The level of predictability in the art;
- (F) The amount of direction provided by the inventor;
- (G) The existence of working examples; and
- (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

After considering all of the above features, it is deemed that A-E and H suggest the invention is enabled.

However, applicant indicates (bottom of page 13 of 9/13/2006 response), that Lu is not enabled as to the means for manipulating the cap assembly. It is deemed that applicant's position is that the iris plate is not enabled. Since an iris plate is the same thing as an iris diaphragm. Thus it is deemed that it is applicant's position that the manipulation of applicant's own iris/cap assembly is also not enabled.

Weighing Applicant's admission with factors A-E and H, it is deemed that applicant's admission outweigh factors A-E and H and thus support a finding of non-enablement.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be o

obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 29-35 and 37- 39, 43, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu 6789400.

Claim 32: See prior Office actions for how Lu is applied. Claim 32 now requires a gas analyzer: Lu discloses such at col. 4, lines 47-49. It is fluid communication with all of the other gas handling features – and in communication with the controller.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lu 6789400 as applied to claim 35 above, and further in view of Deneka 4792347.

See prior Office actions and above for how the prior art is applied

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lu 6789400 as applied to claim 32 above, and further in view of Marcelissen 5942020 and optionally in view of Deneka 4792347 and/or Wikipedia.com's "control system" entry.

See prior Office actions and above for how the prior art is applied.

Response to Arguments

Applicant's arguments filed 8 March 2007 have been fully considered but they are not persuasive.

It is argued that Applicant never argued that Lu is not enabling of manipulation of an iris per se. Rather Applicant argues that the assertion of non-enablement was for the cap assembly which is mutually exclusive of an iris – because the two features are disclosed separately. This argument is not convincing. Lu's paragraph which spans cols. 6-7 indicates that the cap assembly has openings which can be tailored. To the degree that one of ordinary skill is so unfamiliar with irises and adjustable openings and

Art Unit: 1731

thus is unable to connect Lu's broad disclosure of tailorable openings – with Lu's disclosure of specific structure which provides a tailorable opening (i.e. an iris), it is deemed that the same person of ordinary skill would not be enabled to make and use applicant's invention. Applicant has provided no evidence to rebut the Office's prima facie showing of lack of enablement.

It is further argued that Lu's disclosure as a whole described the iris with a conventional heat exchanger, not with Lu's new heat exchanger; Applicant refers to columns 8-9. It appears that applicant (not Examiner who) has failed to consider the entire Lu disclosure. Most notably the portion referred to in the rejection: col 7, lines 6-9. Lu discloses the openings "can be tailored". As far as Examiner can tell, the only embodiment (disclosed in Lu) of an opening that can be tailored, is that of an iris. It would have been obvious to use the only disclosed tailorable open as the specific tailorable opening.

Applicant is correct in pointing out that Lu discloses problems with using an iris in conventional heat exchangers. However, Examiner disagrees with Applicant's assertion that such is a teaching away of an iris in any heat exchanger (or Lu's multi-chamber exchanger.) The plain teaching from Lu is to substitute a multichamber cap for the conventional single chamber cap so as to eliminate the vibrations from a small opening, by having the multiple chambers – which permits a larger opening without the loss of the gas.

The arguments refer to Examiner's failure to provide evidence underlying consideration of factors A-H in the enablement determination. The rejection refers to

Art Unit: 1731

evidence in factors F and G. Applicant has not demonstrated that Examiner has such a burden to provide evidence for all of the factors – nor does such a burden exist. To the degree that Applicant's wants evidence that factors A-E and H support a conclusion of enablement. Examiner is willing to concede to applicant that there is no evidence that shows that any/all factors A-E and H would demonstrate that Applicant's invention is enabled.

It is also argued that Examiner's determination that Lu is enabled and applicant's invention is not is arbitrary and capricious. Examiner sees that Applicant has similarly contradictory conclusions: Lu is not enabled, but applicant's invention is enabled. The evidence of record (as set forth in the rejection) supports the conclusions (1) Lu is enabled and (2) Applicant's invention is not. Applicant has not provided any evidence to the contrary in either instance.

It is further argued that Lu teaches away from the invention because it discourages applicant's path.

From MPEP 2145:

A prior art reference that "teaches away" from the claimed invention is a significant factor to be considered in determining obviousness; however, "the nature of the teaching is highly relevant and must be weighed in substance. A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (Claims were directed to an epoxy resin based printed circuit material. A prior art reference disclosed a polyester-imide resin based printed circuit material, and taught that although epoxy resin based materials have acceptable stability and some degree of flexibility, they are inferior to polyester-imide resin based materials. The court held the claims would have been obvious over the prior art because the reference taught epoxy resin based material was useful for applicant's purpose, applicant did not distinguish the claimed epoxy from the prior art epoxy, and applicant asserted no discovery beyond what was known to the art.)

Applicant's arguments fail to show the teachings were "weighed in substance". Applicant's discussion fails to address those portions of the specification used in the rejection, namely, col. 7, lines 6-9. On the other hand, examiner has weighed in substance all the teachings – including those pointed out by applicant. As pointed out above, the purported teaching away portions of Lu merely indicate that a single chamber plus iris is undesirable. There is nothing that suggests a multichamber plus iris is undesirable.

Also, Lu does not teach away from Applicant's claimed invention, or from the prior art combination because the disclosure of this reference does not criticize, discredit, or otherwise discourage the invention or the combination. *In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1145-46 (Fed. Cir. 2004). Lu does not criticize, discredit or otherwise discourage the invention/combination of iris + multichamber. Rather Lu only criticizes a particular use of an iris. Applicant merely extrapolates that the same problem would result in a multi-chamber arrangement.

Most importantly, Lu teaches the problem "could" cause vibration and breakage and affect fiber quality (Lu, col. 8, lines 58-60). But this is in "many commercial heat exchangers" (Lu, col. 8, line 48-51). Clearly if this is merely a slightly inferior feature – it still permits a commercially feasible process/apparatus.

Art Unit: 1731

From MPEP 2123 Rejection Over Prior Art's Broad Disclosure Instead of Preferred Embodiments

I. PATENTS ARE RELEVANT AS PRIOR ART FOR ALL THEY CONTAIN

"The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also *Upsher-Smith Labs. v. Pamlab, LLC*, 412 F.3d 1319, 1323, 75 USPQ2d 1213, 1215 (Fed. Cir. 2005) (reference disclosing optional inclusion of a particular component teaches compositions that both do and do not contain that component); *Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed.").

>See also MPEP § 2131.05 and § 2145, subsection X.D., which discuss prior art that teaches away from the claimed invention in the context of anticipation and obviousness, respectively.<

II. NONPREFERRED AND ALTERNATIVE EMBODIMENTS CONSTITUTE PRIOR ART

Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." *In re Gurley*, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (The invention was directed to an epoxy impregnated fiber-reinforced printed circuit material. The applied prior art reference taught a printed circuit material similar to that of the claims but impregnated with polyester-imide resin instead of epoxy. The reference, however, disclosed that epoxy was known for this use, but that epoxy impregnated circuit boards have "relatively acceptable dimensional stability" and "some degree of flexibility," but are inferior to circuit boards impregnated with polyester-imide resins. The court upheld the rejection concluding that applicant's argument that the reference teaches away from using epoxy was insufficient to overcome the rejection since "Gurley asserted no discovery beyond what was known in the art." 27 F.3d at 554, 31 USPQ2d at 1132.). Furthermore, "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." *In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

The fact that Lu teaches a single chamber with an iris is shown to be less than optimal does not vitiate the fact that is reasonably disclosed as providing a tailorable opening.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Thus, none of applicant's arguments that the secondary references teaches the iris is convincing; the rejections do not assert such.

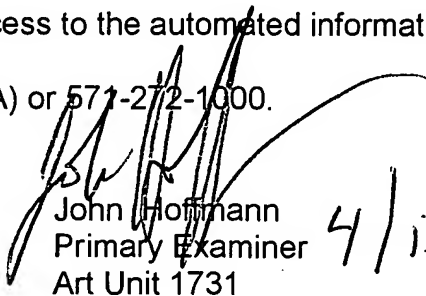
As to the argument that the Wikipedia.com entry is not prior art: It is general Office policy to not spend much resources on documenting such notoriously well known concepts as the use of thresholds in control systems. Wikipedia is utilized to show that applicant's use of thresholds is known and that it should be a waste of Office resources to find some other substantially identical teaching that predates the filing. In as much as patent filers rarely file IDS's which show such notoriously well-known concepts, the Office likewise directs its resources to the features that applicant indicates is novel and unobvious. It is noted that Applicant has not asserted that Wikipedia's teachings are in any way flawed - or that applicant's thresholds is anything beyond mere routine application of threshold-based system control.

Art Unit: 1731

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272-1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John Hoffmann
Primary Examiner
Art Unit 1731

4/13/07

jmh